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10/591,084	03/26/2007	Cesar Astiz Montoya	2004P00286WOUS	7830

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EXAMINER

PEREIRO, JORGE ANDRES

ART UNIT	PAPER NUMBER
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3743

MAIL DATE	DELIVERY MODE
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05/06/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/591,084	Applicant(s) ASTIZ MONTOYA ET AL.	
	Examiner JORGE PEREIRO	Art Unit 3743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 27-41 and 43-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 27-41 and 43-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

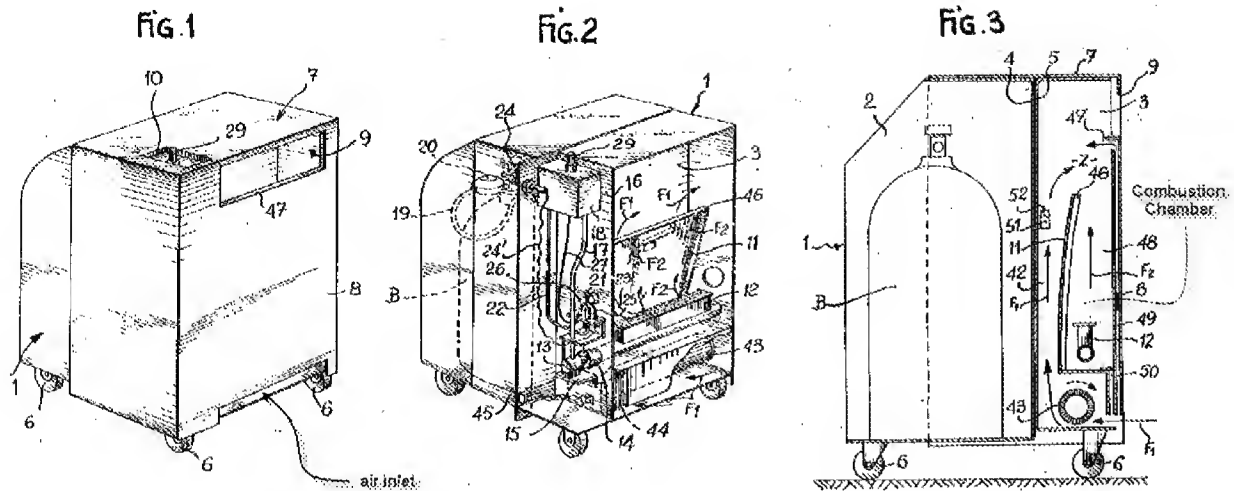
A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 27-37, 40-45, and 48-52 are rejected under 35 U.S.C. 102(b) as being anticipated by French Patent 2,239,916 to Antargaz Distribution (“Antargaz”).

3. In re claim 27, with reference to figures 1-3 below, Antargaz discloses a gas heating device (1) comprising: a gas burner (12) including a combustion chamber (referenced in figure 3 below) for the flames of the gas burner; and a convection air conduit (3) including an air outlet (9) evacuating a convection air stream (F1) that has been heated in the gas heating device, the combustion chamber of the gas burner being in fluid-flow communication with the convection air conduit and mixing an exhaust gas stream from the combustion chamber with the convection air stream (*see at least* figure 3).

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4. In re claim 28, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the gas burner (12) is located inside the convection air conduit (3).

5. In re claim 29, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the convection air conduit (3) includes a first air duct (48) and a second air duct (42).

6. In re claim 30, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the gas burner (12) faces the first air duct (48).

7. In re claim 31, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the second air duct (42) is located behind the gas burner (12).

8. In re claim 32, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein a control element (52) is located in the second air duct (42).

9. In re claim 33, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein at least one swirling element (46) is arranged in the air duct (48) which adjusts a residence time of secondary air in the area of the gas burner (12).

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10. In re claim 34, Antargaz discloses all of the claim limitations including wherein the swirling element (46) at least partially surrounds the gas burner (12) in a funnel shape (see figures 2 and 3 above).

11. In re claim 35, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the convection air conduit (3) is arranged substantially perpendicularly in the gas heating device.

12. In re claim 36, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the gas burner (12) comprises a burner plate including a plurality of flame outlet openings (see figure 2 above).

13. In re claim 37, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the convection air conduit (3) is at least partly defined by a heat-resistant, radiation-transmitting element (49).

14. In re claim 40, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein at least one flow guiding element (11) is provided in the convection air conduit (3) protecting heat-sensitive locations (51, 52) of the gas heating device from the convection air stream (F2).

15. In re claim 41, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the gas heating device (1) comprises at least one of an installation compartment (2) for a gas bottle (B) and rollers (6) disposed on a bottom portion of the gas heating device (1).

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16. In re claim 43, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the gas heating device (1) comprises a housing provided with a hood-like front housing portion (7).

17. In re claim 44, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the front housing portion (7) at least partly defines the convection air conduit (3).

18. In re claim 45, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the air outlet (9) and air inlet (referenced in figure 1 above) are provided in the front housing portion (7).

19. In re claim 48, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein at least one of a flow element and a swirling element (47) is arranged on the front housing portion (7).

20. In re claim 49, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the convection air conduit (3) is embodied as a vertical shaft in the gas heating device (1).

21. In re claim 50, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including further comprising a dividing wall (4, 5) and the convection air conduit (3) being disposed between the dividing wall and the housing front portion (7).

22. In re claim 51, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein the air outlet (9) is at least partly provided on the gas heating device (1) at the top.

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23. In re claim 52, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including wherein a flow element (46, 47) is provided between the gas burner (12) and the air outlet (9) protecting the gas burner from incoming water.

24. In re claim 53, with reference to figures 1-3 above, Antargaz discloses all of the claim limitations including further comprising a housing provided with a hood-like front housing portion (7), the front housing portion at least partly defines the convection air conduit (3), the air outlet (9) and air inlet (referenced in figure 1 above) are provided in the front housing portion, the convection air conduit includes a first air duct (48) and a second air duct (42), the gas burner faces the first air duct (*see* figure 3), the second air duct is located behind the gas burner (*see* figure 3), and the air inlet (referenced in figure 1 above) is communicated (*see* fuel/air mixing tube 14, figure 2) with the gas burner in a manner to provide a secondary air stream to the gas burner for combustion thereby with the secondary air stream reaching the gas burner without any mixing of the secondary air stream with air that has traveled along the second air duct (42) located behind the gas burner (*see* figures 1-3).

Claim Rejections - 35 USC § 103

25. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

26. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

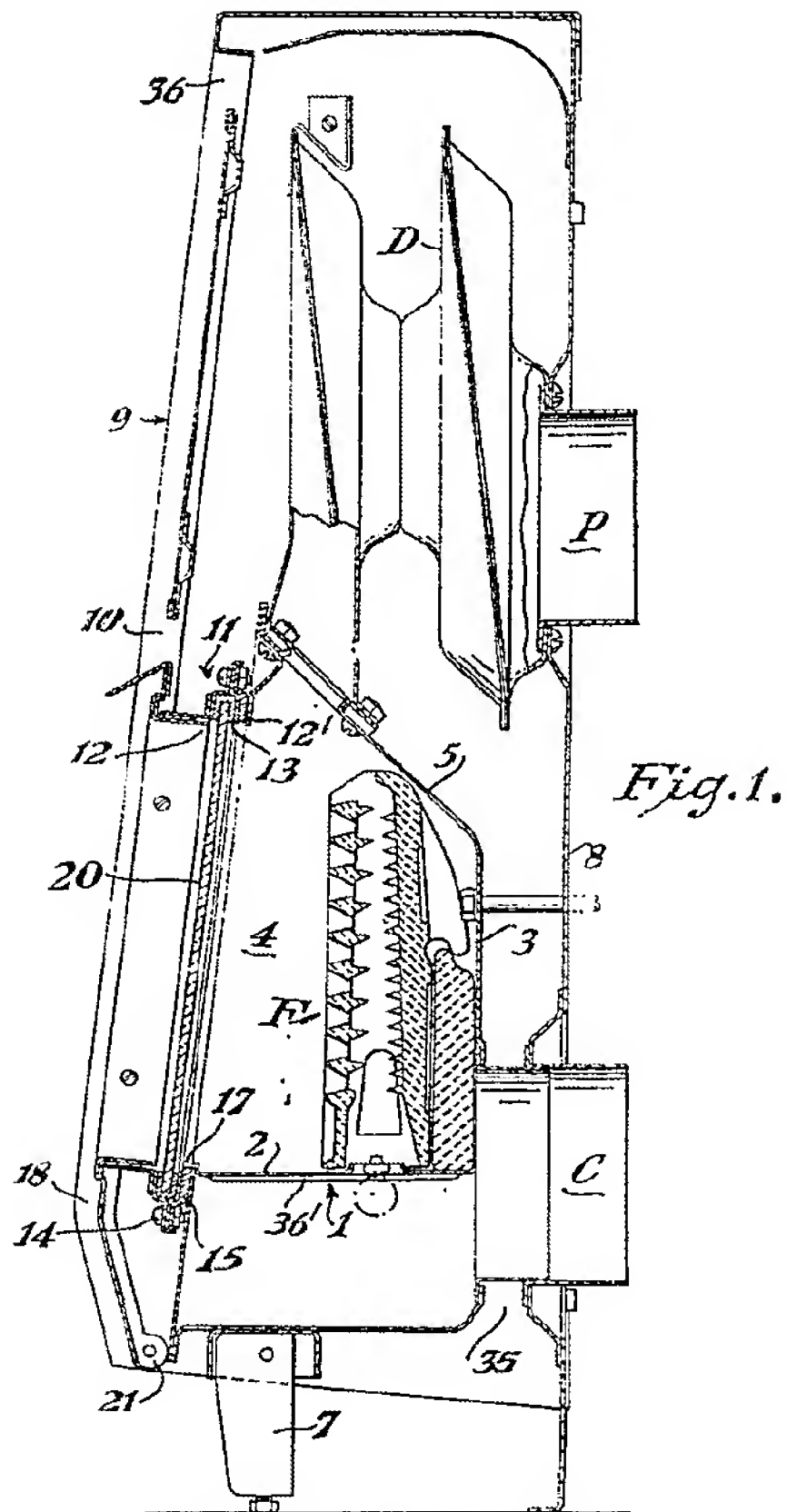
27. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

28. Claims 38-39, and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Antargaz in view of Great Britain Patent Specification 1,113,471 to Fuidge et al. ("Fuidge").

29. In re claim 38, Antargaz discloses all of the claim limitations but does not disclose wherein the radiation-transmitting element is a disk formed from at least one of glass and glass ceramic.

30. Nonetheless, with reference to figure 1 below, Fuidge discloses a gas space/room heater that heats by both radiation and convection wherein a radiation-transmitting element (20) is a square/rectangle formed from at least one of glass and glass ceramic (see page 2, lines 119-129).

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31. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Antargaz by incorporating a radiation-transmitting glass square or rectangle as taught by Fuidge, since such a modification would enhance the heating capabilities of the device disclosed in Antargaz by providing both radiation and convection heating; thereby making optimal use of the heat generated by the burner.

32. Regarding the claim limitation that the radiation-transmitting element is a disk: it appears from the drawings in the instant application that the radiation-transmitting element is square or rectangular in shape and not a disk shape.

33. Nonetheless, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have incorporated a disk shaped radiation-transmitting window for the reasons discussed above because Applicant has not disclosed that a disk shaped window provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a square/rectangular window, as disclosed in Fuidge, because the square/rectangular radiation-transmitting window would radiate an equal, if not greater, amount of heat.

34. Therefore, it would have been an obvious matter of design choice to modify Antargaz to obtain the invention as specified in claim 38.

35. In re claim 39, with reference to figure 1 of Fuidge above, Antargaz in view of Fuidge discloses all of the claim limitations including wherein the radiation-transmitting element (20) is located in a direction of thermal emission of the gas burner (F).

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36. In re claim 46, Antargaz discloses all of the claim limitations but does not disclose wherein a window-like recess is provided in the front housing portion in the direction of thermal radiation of the gas burner.

37. Nonetheless, with reference to figure 1 of Fuidge above, Fuidge discloses a gas space/room heater that heats by both radiation and convection wherein a window-like recess (12) is provided in the front housing portion (9) in the direction of thermal radiation of the gas burner (F).

38. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Antargaz by incorporating a window-like recess provided in the front housing portion in the direction of thermal radiation of the gas burner as taught by Fuidge, since such a modification would provide a means of capturing a greater amount of the radiation heat being emitted from the burner by channeling the irradiative heat and thus enhancing the heating capabilities of the device disclosed in Antargaz by providing both radiation and convection heating; thereby making optimal use of the heat generated by the burner.

39. In re claim 47, with reference to figure 1 of Fuidge above, Antargaz in view of Fuidge discloses all of the claim limitations including wherein the radiation window (12) of the front housing portion is closed by means of a radiation-transmitting square or rectangle (20).

40. Regarding the claim limitation that the radiation-window is closed by a disk: it appears from the drawings in the instant application that the radiation-window is closed by an element that is square or rectangular in shape and not disk shaped.

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41. Nonetheless, at the time the invention was made, it would have been an obvious matter of design choice to a person of ordinary skill in the art to have incorporated a disk shaped radiation-transmitting window for the reasons discussed above because Applicant has not disclosed that a disk shaped window provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with a square/rectangular window, as disclosed in Fuidge, because the square/rectangular radiation-transmitting window would radiate an equal, if not greater, amount of heat.

42. Therefore, it would have been an obvious matter of design choice to modify Antargaz to obtain the invention as specified in claim 47.

Response to Arguments

43. Applicant's arguments filed 02/10/2009 have been fully considered but they are not persuasive.

44. Applicant argues that none of the cited references disclose or teach a gas heating device in which the convection air conduit includes an air outlet evacuating a convection air stream that has been heated in the gas heating device and the combustion chamber of the gas burner is in fluid-flow communication with the convection air conduit and mixes an exhaust gas stream from the combustion chamber with the convection air stream.

45. However, with reference to figures 1-3 above, Antargaz discloses a gas heating device (1) in which the convection air conduit (3) includes an air outlet (9) evacuating a convection air stream (F1) that has been heated in the gas heating device and the combustion chamber (referenced in figure 3 above) of the gas burner (12) is in fluid-flow communication with the

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convection air conduit (3) and mixes an exhaust gas stream (F2) from the combustion chamber with the convection air stream (F1).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Please see form PTO-892 (Notice of References Cited) attached to, or included with, this Office Action.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JORGE PEREIRO whose telephone number is (571) 270-3932. The examiner can normally be reached on Mon.-Fri. 9:00 am - 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Rinehart can be reached on 571-272-4881. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jorge Pereiro
Examiner
Art Unit 3743

/Kenneth B Rinehart/
Supervisory Patent Examiner, Art Unit 3743